1. Keywords

55-GALLON DRUM
DISPOSAL
FUEL
HAZARDOUS WASTE
OCC HLTH REG
OIL
PROTECTIVE PROCEDURE
RECYCLING OF WASTE
TRICHLOROETHANE
TRICHLOROETHYLENE

2. Start Date: FY 85 Quarter 4
End Date: FY 86 Quarter 4

3. HQ Division: 26 - WASTE DISPOSAL ENGINEERING DIV

4. Phase:

5. Program NO: 37

6. Survey Type: GY - HAZARDOUS WASTE MANAGEMENT STUDY

7. INSTALLATION OR SOURCE OF INFORMATION (CITY & STATE OR COUNTY ARE ESSENTIAL)
TC - USA TRAINING & DOCTRINE COMMAND

8. Authors:

9. ARLOC/Activity: 48083 000 - FORT BLISS
Location: FORT BLISS
State: TX

10. Project Control Number: 26-0588-86

11. Title: IDENTIFY STORED WASTE MATERIAL

12. DSA: 66

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO
ATTENTION OF

HSHB-ME-SH

8 September 1986

SUBJECT: Hazardous Waste Study No. 37-26-0588-86, Identification of Unknown Wastes, Fire Fighting Training Area, Fort Bliss, Texas, 15-18 September 1985

Commander
US Army Training and
Doctrine Command
ATTN: ATMD
Fort Monroe, VA 23651-5451

1. AUTHORITY. 1st End, HQ TRADOC, ATEN-FN, 31 October 1984, to letter, ATZC-DEH-E, Fort Bliss, 22 October 1984, subject: Request for Testing of Soil HW Characteristics.

2. REFERENCES. See Enclosure 1 for a list of references used in this report.

3. PURPOSE. This study was conducted to identify the contents of 1,551 55-gallon drums of waste material stored throughout the fire training area and to recommend disposal options for the material.

4. GENERAL.

a. Background. The fire training area at Fort Bliss consists of approximately 8-10 burn sites. Each of these sites has a 55-gallon drum of waste material stored in the vicinity for use in training exercises. In addition, there is a large centralized storage area for drums at the site. Currently, there is a total of 1,551 full drums (i.e., containing more than 1 inch of material) and 160 empty drums at the training area. Many of the drums are open and, therefore, may contain water and/or have allowed for evaporation of the more volatile compounds. The material contained within the drums was generated on Fort Bliss and consists of two basic categories of chemicals:

(1) Fuels, consisting of single components or mixtures of kerosene, diesel, gasoline, motor gasoline, aviation gasoline (AVGAS), JP-4 (jet fuel), etc.

(2) Waste/Used Oil alone or in combination with maintenance shop/motor pool waste (i.e., hydraulic fluid, degreasing solvent, etc.). Additionally, there is the possibility that other solvents generated on the installation may be included in this category. They are:

(a) acetone.

(b) alcohols (ethyl, isobutyl, isopropyl, methyl).

(c) ethyl acetate.

(d) degreasing solvent (PD-680/stoddard solvent).

(e) methyl ethyl ketone.

(f) methyl isobutyl ketone.

(g) paint thinner/remover.

(h) toluene.

(i) xylene.

(j) 1,1,1-trichloroethane.

(k) trichloroethylene.

(l) methylene chloride.

Many of the drums are labeled with a large letter as to which category they fall into: F for fuels and O for used oils.

b. Sampling and Recordkeeping. Once the drums were arranged in working order, a 1-quart sample was obtained from each drum selected for sampling. Since all drums at the fire training area originate at Fort Bliss and are suspected to contain similar materials (either fuels or oil/solvent waste), 10 percent of the drums were to be randomly selected for sampling (approximately 155) to determine disposal options. However, since the majority of drums that were supposed to be full were actually empty (contained less than 1 inch of material) sampling was not random but from drums that contained enough liquid to obtain a sample. Samples were

obtained using a 3-foot hollow glass tube (13 mm inside diameter) which was repeatedly dipped into the drum until the 1-quart sample was obtained. The samples were placed in clear 1-quart, wide mouth glass bottles with Teflon®-lined lids. The drums were then numbered using a permanent marker, and the number was recorded in a logbook along with any pertinent label information or physical/chemical observations made about the sample (e.g., color, odor, viscosity, pH, number of phases, suspected identity and volume). One hundred and fifty-six samples were collected. This comprised the majority of drums that contained enough liquid to be sampled.

c. Sample Compositing and Field Testing. Following collection of the 156 drum samples, materials that appeared to be very similar were composited to make up the laboratory samples. Compositing was on the basis of information in the sample log and field tests performed onsite (i.e., pH, Beilstein for chlorine, specific gravity, water solubility/misability). A composite sample was made up of material from no more than 10 drum samples. Records of which drums made up each composite laboratory samples were maintained.

d. Analytical Testing. Once the drum samples were composited into laboratory samples, an analytical scheme (i.e., recommended series of laboratory tests) for each sample was developed from the available information about each sample. For example, the samples that are in the fuels category had the following laboratory tests conducted:

(1) Flash point determination.

(2) Composition identification (including halogenerated solvents).

e. The waste oil/solvent category was analyzed for the following parameters:

(1) Flash point determination.

(2) Polychlorinated biphenyl (PCB) content.

(3) Heavy metals (lead, cadmium, arsenic, chromium).

(4) Composition identification (i.e., chlorinated solvents, nonchlorinated solvents, petroleum hydrocarbons).

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Analytical methodology was per US Environmental Protection Agency (EPA) Manual SW-846, Test Methods for Evaluating Solid Waste - Physical/Chemical Methods or a similar validated methodology.

f. Drum Disposal.

(1) After completion of the identification phase of this project, the most appropriate disposal recommendations will be made for the various categories of waste identified. In some instances, a worst-case disposal option may have to be used for commingled waste material. The identification of certain contaminants, such as PCBs in the composite samples may require a resampling and analysis of drums on an individual basis depending on the levels found.

(2) Empty waste drums that are generated during the waste removal operation or were already onsite (160) should be disposed of in a permitted sanitary landfill following crushing. This procedure will only be used if, in the testing and identification phase, no acutely hazardous wastes [as defined by the Resource Conservation and Recovery Act (RCRA)] are found.

5. FINDINGS AND DISCUSSION.

a. Laboratory Samples. The 156 drum samples resulted in 38 laboratory samples. Seventeen of these samples were from single drums and the other 21 were from compositing drum samples (see Enclosure 2).

b. Corrosivity. All samples that appeared to have an aqueous phase were tested in the field to determine their pH using Indicator Sticks (pH 0-14) from E. Merck, Darmstadt, Germany (see Enclosure 3). Sixty-one samples (aqueous phase) were tested for corrosivity and none were found to be hazardous (i.e., have a pH less than or equal to 2 or greater than or equal to 12.5). Values for the samples ranged from a low of 4 to a high of 8. If any of the samples tested would have approached a regulated pH value, then the samples would have been analyzed using a more accurate instrumental method.

c. Chlorinated Solvents. To screen sample groups in the field for the presence of chlorinated contaminants a representative sample from each group of similar appearing materials was subjected to a Beilstein test (see Enclosure 4). This consisted of dipping a copper wire in the sample and then burning it in a flame and looking for the characteristic green color produced by chlorinated materials. Twenty-three samples were tested using this method, and all were negative. Composite samples brought back to the laboratory for analysis were also screened for chlorinated materials using gas chromatography with electron capture detector.

d. Laboratory Analysis. Results of analysis on the 38 composite and single samples brought back to this Agency are presented in Enclosure 5. Analysis of the samples confirms the assumption that the material in the drum consists primarily of fuels and oils contaminated with water. Eleven of the samples (oil and hydraulic fluid) were selected for PCB screening as a check, and all were negative. Many of the oils (17) were also analyzed for total lead, cadmium, chromium, and arsenic. The samples with the highest concentrations were then analyzed for extraction procedure (EP) metals, and none exceeded the RCRA regulated levels. Five of the samples, representing 19 drums, (12.2 percent) contained small amounts of chlorinated solvents (i.e., trichloroethane and tetrachloroethylene) with the highest total being 2,700 ppm (0.27 percent). Fourteen of the samples fall into the ignitable category under RCRA with a flash point below 140 °F.

e. Hazardous Classification. The drummed material at Fort Bliss falls into two hazard categories; ignitability (flash point below 140 °F) and toxicity (contains trichloroethane and/or tetrachloroethylene both listed wastes). Additionally, many of the oils exceed the allowable level for metals (i.e., cadmium and/or lead).

f. Disposal. All drums (oils or fuels) containing trichloroethane and/or tetrachloroethylene must be segregated and then managed/disposed of as hazardous waste. The drums containing fuels and no other hazardous contaminants which are regulated due to their low flash point, can be combined and then either recycled or disposed of as hazardous waste. The oils also can be combined and then should be retested. If the blended oil does not exceed any of the following specifications, it is not regulated by RCRA when burned for energy recovery and can be recycled or burned as any waste oil:

(1) Arsenic - 5 ppm maximum.

(2) Cadmium - 2 ppm maximum.

(3) Chromium - 10 ppm maximum.

(4) Lead - 100 ppm maximum.

(5) Flash point - 100 °F minimum.

(6) Total Halogens - 4,000 ppm maximum.

If any of the criteria are exceeded, the oil must then be managed according to Subpart E of 40 CFR 266 if burned for energy recovery. Recycling is a viable alternative regardless of whether the oil meets the above specifications.

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6. CONCLUSION. Analysis of samples taken from drums stored at the fire training area of Fort Bliss shows the material to be primarily fuel, used oil, or a combination of the two contaminated with water.

7. RECOMMENDATIONS. To ensure regulatory compliance, the following recommendations are made:

a. Segregate all drums containing trichloroethane and/or trichloroethylene. Manage and dispose of this material in accordance with appropriate RCRA regulations (40 CFR 262.12 - 262.43).

b. Combine contents of all drums containing fuels (i.e., diesel, gasoline, JP-4, AVGAS, etc.) and recycle or dispose of as hazardous waste (40 CFR 261.6, 40 CFR 262.12 - 262.43).

c. Combine contents of oil drums and then retest for parameters listed in section 5f of this report if the oil is to be burned for energy recovery (40 CFR 266.40). If results exceed any regulated parameter manage the oil according to Subpart E of 40 CFR 266. The oil may also be recycled (AR 420-47, paragraph 2-12c).

FOR THE COMMANDER:

Karl J Daubel

5 Encls

KARL J. DAUBEL
Colonel, MS
Director, Environmental Quality

CF:
HQDA(DAEN-ZCF-U/DAEN-ZCE)
HQDA(DASG-PSP)
Cdr, TRADOC (ATEN) (5 cy)
Comdt, AHS (HSHA-IPM)
Cdr, WBAMC (PVNTMED Svc) (2 cy)
Cdr, USAEHA Fld Spt Actv, FAMC

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REFERENCES

1. AR 420-47, 1 December 1984, Solid and Hazardous Waste Management.

2. Title 40, CFR, 1985 rev, Part 261, Identification and Listing of Hazardous Waste.

3. Title 40, CFR, 1985 rev, Part 262, Standards Applicable to Generators of Hazardous Waste.

4. Title 40, CFR, 1985 rev, Part 266, Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities.

5. EPA Manual SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 2d Edition, 1982.

Encl 1

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LABORATORY SAMPLES AND DRUM SAMPLES THAT COMPRISE THEM

Laboratory Sample Number	Suspected Identity	Drum Numbers that Comprise Laboratory Sample
1	70% fuel oil/30% water	9
2	80% fuel oil/20% water	27,31,35,71,152
3	Fuel	22,27,29,31,33,35,62, 71,111,120,152
4	Fuel (dark color)	1,7,11,49,52,60,61,73
5	Fuel	55,56
6	Light solvent	3,121,125,128
7	Light solvent	10,15,25,82,110,122
8	Solvent (dark color)	28,32,58,106,115
9	Black solvent	18,21,39,47,50,53,54, 59,67,149
10	80% black solvent/20% water	19,37,38,85,131,138,142
11	Fuel oil	70
12	Fuel	132
13	60% hydraulic fluid/ 40% water	78
14	Antifreeze	68
15	Unknown	5
16	Unknown	64
17	Unknown	40
18	Fuel oil	148
19	Unknown	51

Encl 2

Laboratory Sample Number	Suspected Identity	Drum Numbers that Comprise Laboratory Sample
20	Unknown	42
21	Unknown	66
22	Unknown	41
23	Fuel oil	30
24	Fuel	114
25	Motor oil	77
26	Viscous oil	141
27	5% oil/95% water	12,17,80,81,83,86, 126,134,136,143
28	5% oil/95% water	74,76,90,93,94,95,96, 103,119,140
29	5% oil/95% water	2,87,88,89,91,92,100, 102,135,146,150,154
30	10% oil/90% water	75,79,108,112,116,155,156
31	Oil	45,151,153
32	Oil	6,34,36,57
33	70% oil/30% water	13,14,48,65,84,98,104
34	Light oil	8,16,43,137,144
35	10% oil/90% water	4,97,118,123,124,127, 129,145,147
36	10% oil/90% water	63,72,99,101,105,107, 109,113,117
37	Oil	20,44,130,133
38	70% oil (black)/30% water	22,23,24,46,69,139

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Corrosivity Field Testing

Drum Sample Number	Sample Description	pH (range)
2	100% water	6-8
4	4% oil/90% water	6-8
9	75% solvent/25% water	6-8
16	99% oil/1% water	6-8
27	80% fuel/20% water	5-6
30	70% oil (milky)/30% water	6-8
31	80% fuel/20% water	5-6
34	90% oil/10% water	6-8
35	80% fuel/20% water	5-6
36	80% oil/20% water	6-8
43	98% oil/2% water	6-8
63	1% oil/99% water	6-8
65	75% oil/25% water	6-8
72	2% oil/98% water	6-8
74	5% oil/95% water	6-7
75	10% oil/90% water	6-7
76	5% oil/95% water	6-7
79	10% oil/90% water	6-7
80	5% oil/95% water	6-7
81	5% oil/95% water	6-7
83	5% oil/95% water	6-7
87	5% oil/95% water	6-7
88	5% oil/95% water	6-7

Encl 3

Drum Sample Number	Sample Description	pH (range)
89	5% oil/95% water	6-7
90	5% oil/95% water	6-7
91	5% oil/95% water	6-7
92	5% oil/95% water	6-7
93	5% oil/95% water	6-7
94	5% oil/95% water	6-7
95	5% oil/95% water	6-7
96	5% oil/95% water	6-7
97	1% oil/99% water	6-8
98	25% oil/75% water	6-8
99	1% oil/99% water	6-8
100	5% oil/95% water	6-7
101	2% oil/98% water	6-8
104	25% oil/75% water	6-8
105	2% oil/98% water	6-8
107	2% oil/98% water	6-8
10	92% oil/98% water	6-8
112	10% oil/90% water	6-7
113	2% oil/98% water	6-8
117	2% oil/98% water	6-8
118	2% oil/98% water	6-8
119	5% oil/95% water	5-6

Drum Sample Number	Sample Description	pH (range)
123	1% oil/99% water	6-8
124	1% oil/99% water	6-8
127	1% oil/99% water	6-8
129	0.5% oil/99.5% water	6-8
134	5% oil/95% water	6-7
135	5% oil/95% water	6-7
136	5% oil/95% water	6-7
140	5% oil/95% water	4-5
143	5% oil/95% water	6-7
145	0.5% oil/99.5% water	6-8
146	5% oil/95% water	4-5
147	1% oil/99% water	6-8
150	5% oil/95% water	4-5
154	100% water	6-8
155	10% oil/90% water	6-7
156	10% oil/90% water	6-7

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Field Testing (Beilstein) for Chlorinated Contaminants

Drum Sample Number	Suspected Description	Results (+ or -)
4	Oil slick on water	-
6	80% oil/20% water	-
7	Fuel (dark color)	-
11	Fuel (dark color)	-
14	Oil	-
24	Oil (black)	-
45	80% oil/20% antifreeze	-
56	90% fuel/10% water	-
59	Black solvent on water	-
62	Fuel	-
67	Black solvent on water	-
85	80% black solvent/20% water	-
106	Black solvent	-
110	Light solvent	-
111	Fuel	-
123	Oil slick on water	-
128	Light solvent	-
130	90% oil/10% water	-
131	80% black solvent/20% water	-
137	Light oil	-
149	Black solvent on water	-
151	80% oil/20% anti freeze	-
156	10% oil/90% water	-

Encl 4

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Results of Laboratory Analyses on Drum Composite Samples*

Laboratory Sample Number	Number of Phases	Analyses Performed	Results† Upper Phase	Lower Phase
1	2	Flash Point	74.5 °F	74.5 °F ‡
		Bulk Analysis §	Light petroleum fraction (i.e., motor or heating fuel)	water
2	2	Flash Point	72 °F	72 °F
		Bulk Analysis	Same as sample 1	
3	1	Flash Point	71.5 °F	
		Bulk Analysis	Light petroleum fraction (i.e., motor or heating fuel)	
4	1	Flash Point	>100 °F - <140 °F	
		Bulk Analysis	Light petroleum fraction (i.e., motor or heating fuel) mixed with a heavy petroleum fraction (i.e., motor oil)	
		Total Metals//	Nondetectable	
5	1	Flash Point	>140 °F	
		Bulk Analysis	Heavy petroleum fraction (i.e., motor oil) - 60% phenyl isopropyl phosphate; triphenyl phosphate - 40%	
6	1	Flash Point	73 °F	
		Bulk Analysis	Sample as sample 3	
7	1	Flash Point	75 °F	
		Bulk Analysis	Sample as sample 3	
8	1	Flash Point	75 °F	
		Bulk Analysis	Sample as sample 4	
		Total Metals	lead - 7.4 mg/kg	
9	1	Flash Point	>140 °F	
		Bulk Analysis	Blend of synthetic (ester based) lubricants and petroleum based lubricants	
		Total Metals	lead - 57 mg/kg cadmium - 2.6 mg/kg	

See footnotes on page 6.

Encl 5

Laboratory Sample Number	Number of Phases	Analyses Performed	Results† Upper Phase	Lower Phase
10	2	Flash Point	>140 °F	
		Bulk Analysis	Sample as sample 9 plus 200 ppm trichloroethane	water
		Total Metals	lead - 17.2 mg/kg cadmium - 0.94 mg/kg	
11	1	Flash Point	>100 °F - <140 °F	
		Bulk Analysis	Same as sample 4	
		Total Metals	lead - 22.4 mg/kg cadmium - 0.7 mg/kg	
12	1	Flash Point	>140 °F	
		Bulk Analysis	Same as sample 4, but more oil than fuel	
		Total Metals	cadmium - 1.1 mg/kg	
13	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Synthetic hydraulic fluid	water
		Total Metals	lead - 2.8 mg/kg	
		PCB	Nondetectable	
14	1	Flash Point	>140 °F	
		Bulk Analysis	Ethylene glycol	
15	2	Flash Point	77 °F	77 °F
		Bulk Analysis	Light petroleum fraction (i.e., heating or motor fuel) mixed with synthetic motor oil	water
		Total Metals	lead - 18.0 mg/kg	
16	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Heavy petroleum fraction (lubricating oil)	water
17	1	Flash Point	>140 °F	
		Bulk Analysis	Blend of synthetic and petroleum based lubricants	
		Total Metals	lead - 5.2 mg/kg	

See footnotes on page 6.

Laboratory Sample Number	Number of Phases	Analyses Performed	Results† Upper Phase	Lower Phase
18	1	Flash Point	>140 °F	
		Bulk Analysis	Heavy petroleum fraction (i.e., motor oil)	
		Total Metals	lead - 282 mg/kg cadmium - 2.0 mg/kg chromium - 1.9 mg/kg	
		EP Toxicity Metals	lead - 4.0 mg/kg cadmium - 0.12 mg/kg chromium - <0.5 mg/kg	
		PCB	Nondetectable	
19	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Same as sample 4	water
		Total Metals	Nondetectable	
20	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Same as sample 4 plus 1,100 ppm - trichloroethane 1,600 ppm - tetrachloroethylene	water
21	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of water, light petroleum fraction (i.e., motor or heating fuel), and methyl silicone oil	water
22	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Heavy petroleum fraction (i.e., motor oil) and a surfactant	water
23	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of water, heavy petroleum fraction (i.e., lubricating oil), light petroleum fraction (i.e., motor or heating fuel), plus 1,500 ppm - trichloroethane	water
24	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of light petroleum fraction (i.e., motor or heating fuel) and water	water

See footnotes on page 6.

Laboratory Sample Number	Number of Phases	Analyses Performed	Results† Upper Phase	Lower Phase
25	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of heavy petroleum fraction (i.e., lubricating oil) and water	water
		Total Metals	lead - 2.9 mg/kg	
26	1	Flash Point	>140 °F	
		Bulk Analysis	Polyacrylamide (synthetic plastic) and water	
27	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of water and heavy petroleum fraction (i.e., motor oil)	water
		PCB	Nondetectable	
28	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of heavy petroleum fraction (i.e., lubricating oil) and water	water
		Total Metals	lead - 3.5 mg/kg	
		PCB	Nondetectable	
29	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of heavy petroleum fraction (i.e., lubricating oil) and water	water
		PCB	Nondetectable	
30	2	Flash Point	>100 °F - <140 °F	>100 °F - <140 °F
		Bulk Analysis	Emulsion of heavy petroleum fraction (i.e., motor oil) and water	water
31	1	Flash Point	>140 °F	
		Bulk Analysis	Emulsion of synthetic (ester based) oil, petroleum based oil, methyl silicone oil and water	
		Total Metals	lead - 30.1 mg/kg chromium - 1.3 mg/kg cadmium - 7.4 mg/kg	
		EP Metals	Nondetectable	

See footnotes on page 6.

Laboratory Sample Number	Number of Phases	Analyses Performed	Results† Upper Phase	Lower Phase
32	1	Flash Point	75 °F	
		Bulk Analysis	Emulsion of light petroleum fraction (i.e., motor or heating fuel), a heavy petroleum fraction (i.e., lubricating oil), and water	
33	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Emulsion of heavy petroleum fraction (i.e., lubricating oil) and water	water
		Total Metals	lead - 53.4 mg/kg chromium - 1.0 mg/kg cadmium - 2.1 mg/kg	
34	1	Flash Point	>100 °F - >140 °F	
		Bulk Analysis	Light petroleum fraction (i.e., motor or heating fuel)	
35	2	Flash Point	>100 °F - <140 °F	>100 °F - <140 °F
		Bulk Analysis	Heavy petroleum fraction (i.e., lubricating oil)	water
		PCB	Nondetectable	
36	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Heavy petroleum fraction (i.e., lubricating oil)	water
		PCB	Nondetectable	
37	1	Flash Point	>140 °F	
		Bulk Analysis	Heavy petroleum fraction (i.e., lubricating oil) plus 200 ppm - trichloroethane	
		Total Metals	lead - 31.5 mg/kg chromium - 1.4 mg/kg cadmium - 6.9 mg/kg	
		EP Metals	Nondetectable	
		PCB	Nondetectable	

See footnotes on page 6.

Laboratory Sample Number	Number of Phases	Analyses Performed	Results† Upper Phase	Lower Phase
38	2	Flash Point	>140 °F	>140 °F
		Bulk Analysis	Heavy petroleum fraction (i.e., lubricating oil) plus 440 ppm - trichloroethane	water
		Total Metals	lead - 75.5 mg/kg chromium - 0.77 mg/kg cadmium - 0.92 mg/kg	
		EP Metals	Nondetectable	
		PCB	Nondetectable	

* See enclosure 2 for drums that comprise laboratory samples.
† One set of data indicates a single phase sample.
‡ Low flash point for water phase is indicitive of a small amount of upper phase fuel being present in the water.
§ Includes analysis for halogenated solvents.
// Analysis for arsenic, cadmium, lead, and chromium.